"CYTOLOGICAL AND HISTOLOGICAL, CORRELATIVE STUDY IN CASES OF PRECANCEROUS AND CANCEROUS LESIONS OF UTERUS & CERVIX"

THESIS

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2003 **Priyata Gupta**

CERTIFICATE

*This is to certify that the Work entitled "**CYTOLOGICAL AND HISTOLOGICAL, CORRELATIVE STUDY IN CASES OF PRECANCEROUS AND CANCEROUS LESIONS OF UTERUS AND CERVIX**" which is being submitted as a thesis for M.S. (obstetrics & Gynaecology) examination, 2003, Bundelkhand University by Dr. Priyata Gupta, has been carried out in the department of Obstetrics & Gynaeecology, M.L.B. Medical College, Jhansi under my direct supervision and guidance. The observations recorded have been checked and verified by me from time to time.*

She has put in the necessary stay in the department as required by the regulations of Bundelkhand University.

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PRIYATA GUPTA

CONTENTS

Introduction

INTRODUCTION

Carcinoma of the female genital tract are the most prevalent forms of cancer in the world. Cancer of cervix is the most common site of cancer in most developing countries including India and remains a major cause of death.

Cancer screening in gynaecology is a recent phenomenon. It is only since the middle of the 20th century that the concept of doing a checkup on normal healthy women with the aim of finding an early asymptomatic cancer has been accepted in gynaecological practice all pre invasive and very early invasive lesions are completely asymptomatic. Only routine cervical screening will help to identify these lesions early, to day refined screening techniques and improved patient education has contributed to there early detection. The apparently prolong natural history of pre cancerous lesions of uterine cervix and accessibility of cervix for visual examination and to obtain exfoliative cells had made screening for cervical cancer most popular.

Screening is generally considered to be a medical investigation that does not arise from a patient's request for relief of symptoms. The screening is to diagnose a disease

before symptoms occur when treatment can overt disability and mortality.

Eving over 40 years described, precancerous lesions as a term used to denote a lesion that proceeds and favours the development of cancer but does not possess the essential elements of cancerous process. These precancerous lesions have been recognized for well over half a century and have been intensively investigated for the past 25 years or more.

Carcinoma of uterine cervix is the only cancer that is preventable, this is because it can be easily detected in the precancerous stage of diseases by cervical screening. The benefits of cervical screening has been demonstrated in numerous studies , in sweden this has resulted in 75% reduction in the incidence of cervical cancer (Stenkvist et al)

Cancer of cervix is a disease which has well known in India and Egypt years before the birth of Christ (1500BC) Rubin (1910) introduced the term "carcinoma-in-situ" as a fore-runner of invasive carcinoma , Walter and Regan (1950) put concept of Dysplasia-A stage of pre invasive process prior to 'carcinoma-in-situ' in dysplasia essential change is in the nucleus which is always enlarged and hyperchromatic. Richart in 1967 brought the concept of cervical intra epithelial neoplasia (CIN). It is a histopathologicl condition where part or

whole thickness of cervical squamous epithelium is replaced by cells showing, varying degree of atypia.

Mild dysplasia (CIN I) involves basal one third of cervical squamous epithelium, changes are present in superficial or intermediate cells. Moderate dysplasia (CIN II) involves change in half to two-third , in addition superficial and intermediate cells and fair number of parabasal cell show the change. Severe dysplasia (CIN III) involves whole thickness except one or two superficial layers, changes in parabasal cells, chromatin is dense and uniform. Carcinoma-in-situ involves whole thickness and it progression to carcinoma cells, cases of mild or moderate dysplasia may revert back to normal, most often related to infection or may remain static or progress to severe dysplasia , long terms follow-up studies have shown that mild dysplasia progresses to severe in 16% of cases. Severe dysplasia is most susceptible to progress into invasive carcinoma.

Women with following risk factors are more prone to develop carcinoma cervix.

(A) Early sexual intercourse.

(B) Early age of first pregnancy.

(C) Too many births / too frequent.

(D) Low socio economic status

(E) Multiple sexual partners

(F) Sexually transmitted disease.

(G) Human papiloma virus (type 16, 18) and HSV type 2.

(H) Immuno compromised (HIV positive) individuals .

(I) Husband whose previous wife died of cervical malignancy

(J) Smoking habits.

Carcinoma of uterine cervix is most studied and researched. It is estimated that out of 480,000 cases seen approximately in the world of which over 75% are in the developing countries.

What is more disturbing is that the incidence is on increase and in 21st century their will be about 6,80,000 cancer cases out which 84% will be from the developing countries (Miller 1975) Therefore, it is mainly a health problem of developing world and to reduce incidence of carcinoma cervix it should be screened, detected and treated at early stage. In India the incidence of cancer cervix contain to be high, various cancer registers indicate that it is about 20 - 40 per 1,00,000 women.

Screening of carcinoma cervix is done by vaginal cytology. Cytology is by definition, the study of cells (Cytos in Greek

means cells) . It was introduced in clinical medicine by George Papanicoleau, a Greek Scientist in 1943 he described the presence of abnormal cells in the vaginal smears of asymptomatic women which were exfoliated from an early carcinoma-in-situ. Since 1950, it has been accepted that an annual "Pap smear" on all women will control cervical cancer by diagnosing it early , at a stage when treatment can cure.

Vaginal cytology fullfills the most important criteria for a useful screening test with good sensitivity, specificity, low cost and little risk of discomfort to the patient and further effective forms of therapy are available when abnormal cells are detected.

Cells which are normally exfoliated from the genital tract are accumulated in the posterior fornix from where they can be picked up by vaginal cytology.

Cytology should be done in all patients with complains of menorrhagia, polymenorrhoea, bleeding per vagina off and on, contact bleeding, unexplainable leucorrhoea. It should also be done in cases of non healing ulcer of cervix, indurated spots on cervix, cervicitis, erosion on cervix, cervical growth, spotting of blood over examining finger. Cytological techniques has greatly helped to spot in significant no. of women asymptomatic and clinically non recognizable lesion of cervix.

Vaginal cytology should be done to all women above 30 years of age & and to those younger who, have born children and has become sexually active, a first smear should be taken at thirty years of women, second smear should be taken one year after the first to over come the false negative rate. If two smears are negative screening should be done every 3-5 years till 60 years of age. It is advocated that the sexually active older adolescent 18-21 year have pap smears atleast yearly it is also said that sexually active adolescent under 18 years should have annual pap smears.

Vaginal cytology has proved to be the more successful test for detection of precancerous lesion and is responsible for reduction of cervical cancer mortality and morbidity rates. However pap smear is not perfect, False negative results of various rates are reported occasionally because of blood, necrotic material and leukocytes , the often poorly preserved malignant cells from obvious carcinoma may be obscured resulting in negative smears (Blaus tein 1981) The speculum must be introduced without use of, lubricants as these may induce artifacts (De Narvaez and Blaus tein 1977)

Specificity of the cytology indicates ability of the test to identify healty persons in the screened population. It is approximately Ninety Nine percent accurate, false positive rates may be due to errors of interpretation, presence of

cervicitis, radiation, blood and necrotic material. Sensitivity of cervical smears is 85% false negative is 15%. It may be due to errors in sampling and screening or interpretation of smear (Wilkinson 1990, Soost et al 1991 ; Sunsri 1991).

Therefore in such cases where vaginal cytology has false negative results and also for the confirmation of diagnosis cervical biopsy should be done.

Endometrial carcinoma is showing increasing incidence in frequency and occurrence at early ages. It has been estimated by muenzer in 1974 that 7 lacs out of 45 million women under 35 years above will develop endometrial carcinoma. Ratio of endometrial cancer to cervical cancer is 1:25 (Ray Choudhary, 1975).

Improvement in survival figures will require an early diagnosis with use of effective screening approach prior to onset of symptoms of abnormal postmenopausal bleeding. Endometrial carcinoma is an easily curable disease which is true only if it is localized early. Therefore attempts have been made to identify women who are at risk for developing carcinoma. Risk factors for endometrial carcinoma are delayed menopause, hypertension, Diabetes , obesity, nulliparity, previous radiation therapy, unopposed estrogen stimulation, family history of endometrial carcinoma, Tamoxifen therapy.

The wide spread application and acceptance of cytology in the detection of uterine cervical cancer, would suggest the cytological study of endometrium offers the greatest opportunity of early detection of malignancy in this tissue but one of chief difficulties encountered in the cytological study of the endometrium has been related to inability to obtain a satisfactory and represented cellular sample, consistently, and also vaginal cytology have a low accuracy in the diagnosis of in the endometrial cancer because before endometrial cells reach vagina and posterior fornix, they are desquamated and tend to degenerate .

In 1943 Cary described the use of endometrial aspiration cytology in the diagnosis of cancer and other conditions of the uterus. It is simple technique which provides abundant cellular material available for early detection of carcinoma in female. Application of endometrial aspiration cytology to detect clinically unsuspected endometrial carcinoma and pre-malignant lesion of endometrium because malignant and hyperplastic cells are less cohesive they are more likely to exfoliate .

Endometrial aspiration smears on histology shows proliferative , secretory, atrophic endometrium and simple hyperplasia, atypical hyperplasia, adenomatus hyperplasia It is now possible to recognized at separate entities as varios

metaplasias as well as atypias which are caused by , polyps , myoma , endometritis and squamous cell metaplasia of the endocervivex. Prognosis of endometrial carcinoma is dependent on early diagnosis.

Simple hyperplasia (Cystic without atypia) progress to cancer is 1%, complex hyperplasia (adenomatus without a typia) progresses to carcinoma 3% , Atypical simple (Cystic without atypia) progresses to carcinoma in 8% cases and complex (adenomatus with a typia) progressive to carcinoma in 29% of cases. Aspiration cytology has 90% sensitivity for detection of endometrial carcinoma and 58% for endometrial hyperplasia.

Endometrial aspiration cytology can be used as a routine office procedure in cancer diagnosis. It has advantages, that delay on the part of physician or the patients is reduced , is convenient and time saving for both physician and patient, expense is less than with conventional curettage , its use releases hospital beds and operating rooms for other purposes. The proponents further claims that it is simple applicable to almost all patient and free of complications, adequate tissue almost always be obtained and that its diagnostic accuracy is equal to that of conventional curettage for high risk patient, screening for endometrial carcinoma should be done yearly.

Abnormal uterine bleeding is the most common clinical presentation of gynecological disorders in the peri and postmenopausal age group. An increasing incidence of endometrial cancer during past two decades a has stimulated the gynaecologist to diagnose this tumour at early stage, so that treatment can be initiated. Although cervical scrape smear and vaginal cytology are healthful diagnostic tools and they are without limitations.

Recent articles have urged physician to give increased attention to use of cytologic and histopathologic techniques in the detection of precancerous and cancerous endometrial lesions, since there is an increasing incidence of malignant disease at this site.

Cytologic screening is an important diagnostic tool to detect precancerous and cancerous lesions of uterus and cervix.

There is recent rise in precancerous and cancerous lesion among gynaecological disease so there for nesscessity of early detection of both. Thus vaginal smear, cervical biopsy and endometrial aspiration have been adopted as cytologic and histopathologic procedures in this study. Hysterectomy has been performed after confirmation of diagnosis by cytology and biopsy

Review of Literature

REVIEW OF LITERATURE

Previously gynaecological carcinoma was diagnosed on the basis of symptoms and mostly at an advanced stage histologically, Rubin in 1910 first reported 3 cases of incipient carcinoma of the cervix and in two of his cases extension into the glands of the cervix was observed (Reddy and Sarada, 1976). Broders in 1932, introduced the term "Carcinoma in situ" and classified early malignant lesions as :

(1) Carcinoma in situ with involvement of surface epithelium.

(2) Carcinoma in situ with glandular involvement.

(3) Questionable stromal involvement.

The first two are grouped under carcinoma in situ. The role of vaginal smear in detection of cancer was first described by Papanicolaou in 1928. Carcinoma fundus and cervix were classified as exfoliative lesions by Papanicolaou and Traut WHO in 1943 published a method of vaginal smear for diagnosing uterine cancer.

Papanicolaou and Traut (1943), particularly in the early days of cyto diagnosis took samples chiefly from the posterior fornix of the vagina. Berg and Durfee (1958) demonstrated that

vaginal sample was seemed particularly suitable for investigating endometrial carcinoma.

Davis (1962) suggested the idea of conducting mass examinations of self collected irrigation specimens, such systems have been tested satisfactorily by other investigators, since then Kawashima et al tried his technique, in Japan in 1966. Richart and Vaillant (1965) and Reagan and Lin (1967) reported that vaginal irrigation resulted in inadequate diagnostic accuracy In the screening for early cervical cancer.

Nelson and Hall (1968) consider a typical smear benign. Hammond et al (1968) consider atypical smears changes as negative.

Wahi et al (1969) studied factors influencing cancer of uterine cervix by vaginal cytology and concluded that carcinoma cervix accounted for 30.6% of all cancers. The youngest patient was 18 years and oldest 80 years, carcinoma was higher in the group 45-54 years of age. Wahi et al (1969), Rao et al (1973), Chakravarty at al (1976) reported dysplasia from 2.3 - 7.5%.

Figg et al (1970) reported that one sixth of their cases of cancer were found in patients with atypical smear.

Aikat et al. (1974) studied cervical smears of 19,574 women of different ages. Malignancy was detected in 341 women (17/1000) of whom 77 (4/1000) were clinically non suspected. Dysplasia was present in 301 women (15/1000), mostly they were mild in type. Dysplasia was seen starting usually at 25 years, carcinoma in situ at 35 years and invasive carcinoma at 45 years. Dysplasia was found In 6.58% in the age group of 21—30 years. Dyaplasia and malignancy were more common in women with multiple pregnancies. 18.8% of malignancy were present in nulliparous women. Women had no complaints whatsoever, though 53.1% were suffering from dysplasia 22% from carcinoma in situ end 5.9% from invasive carcinoma Biopsy could be taken from 154 women, which confirmed diagnosis, 22 women suffering from carcinoma in situ were clinically free from malignancy. There were 301 smears with dysplasia, mild 231, moderate 53, severe 17.

Herbert et al (1976) on analysis of atypical smears continued to find cases of carcinoma in situ. In 10% cases repeat smears progressed to higher abnormality. Persistent atypical smear required tissue for adequate histologic evaluation. Nyirjesy (1972) arid Hulka (1968) have reached to similar conclusions.

Hameed et al (1976) studied 300 vaginal. smears. The incidence of cancer cervix was 2%. Out of 143 cases belonging

to the age group of 20-30 years none had cancer smears. The incidence was 2.22% in the age groups of 31-40 years and 41—50 years. There was 13.64% incidence amongst 22 cases of age group of above 50 years.

Bhaskaran at al (1978) studied 2741 patients, 620 were inflammatory. In 221 cells were scanty. cytological assessment was possible in 1900 cases. Mild dysplasia was seen in 16.6%. moderate in 6%. severe in 5.9% carcinoma in situ in 3.8% and malignancy in 11.6%. Average age of mild dysplasia was 31.4 years, carcinoma in situ 34.3 years and invasive carcinoma 42.2 years. Dysplasia was seen most often in the younger age group (18.7%). 204 biopsies were available in the invasive group, two were reclassified as carcinoma in situ and 2 as severe dysplasia after biopsy. In carcinoma in situ 65 biopsies were available, 2 turned out to be micro-invasive carcinoma and 4 moderate dysplasia by biopsy. There were 3 cases of over diagnosis in severe dysplasia and under diagnosis in 4 cases. The same occurred with moderate and mild dysplasia.

Mishra and Das (1979) studied 100 cases by vaginal cytology in precancerous leaions. Maximum number of abnormal smears observed in cases of erosion cervix, with cervicitis (6.6%) and erosion with hypertrophy of cervix (80%). Incidence of dysplasia increased with age, parity and low socio-

economic group. Biopsy confirmed carcinoma in situ in one which showed severe dysplasia.

Jamila at al (1980) did cervical smear study in 1000 kashmiri women, selection for cases were patients erosion or chronic vaginal discharge. Dysplasia was seen in 2.5% case., carcinoma in situ in 3 patients and invasive carcinoma in 11 patients, normal smear in 6.5%. remaining smears showed inflammatory changes and abnormal smear were 3.90%. Mild dysplasia in 10 cases, moderate in 10 cases, and severe in 5 cases out of the 25 cases of dysplasia. Mean age group of mild and moderate dysplasia wan 26 years, severe 28 years, carcinoma in situ 30 years and invasive carcinoma 55 years. Cervical biopsy was done in all the cases of severe dysplasia and had later on total abdominal hysterectomy performed Irradiation therapy or Wertheim's hysterectomy was done for the invasive carcinoma of the cervix.

According to Noguchi et al (1982) cytologic classification showed 127 negative smears, 5 carcinomas in situ and 10 invasive carcinomas on the physician prepared smears. Classification of self collected smears showed 127 negative smears, 10 dysplasia, 7 carcinoma in situ end 6 invasive carcinomas.

Szczepanik and Helpap (1983) histologically analysed 135 cases of suspicious or positive colposcopic or cytologic findings. In cases of colposcopically detectable atypical changes or suspicious findings as well as of cytologic dysplasia or carcinomas the histologic diagnosis were almost the same. In 3 years they performed colpoascopic, cytologic and histologic examination in 6,872 patients. Histologically analysed 135 cases of suspicious or positive colposcopic or cytologic findings.

In 1943 Papanicolaou and Traut diagnosed uterine cancers by vaginal smear examination, but results were poor showing variable accuracy rate (18.94% of accuracy). Cary (1943) was the first to develop a practicable technique of aspiration to draw an intra uterine sample.

Later on various other workers had diagnosed endometrial carcinoma by studying ecto-cervical sample, (Ayre 1947) and endocervical samples (Reagan and Sanmerville 1954), (Boschanfl 1956). By these studies accuracy rate for endometrial carcinoma was 70% and 61% respectively.

Williams and Stewart (1947) diagnosed cases of endometrial carcinoma by endometrial aspiration. Two hundred cases of more than 36 years of age were studied. All cases showed proliferative phase except six of slight hyperplasia in post menopausal group.

In 1949 Papanicolaou performed cytological diagnosis of uterine cancer by examination of uterine secretions. 3.22% cases of adenocarcinoma were diagnosed.

Hecht (1952) studied 125 cases by endometrial aspiration. Age group varied from 34-71 years, 86 cases with menorrhagia, metrorrhagia and bleeding P/V off and on 52 cases were postmenopausal. 16 patients had adenocarcinoma of endometrium, 12 were in postmenopausal and 4 among premenopausal group. 6 of these cases were diagnosed by endometrial smear.

Ayre (1955) developed his new method. Natural bristles were fixed to tip of cannula used to scrape the walls of uterine cavity. The material was smeared on slide and studied.

Hecht (1956) did a study of endometrial aspiration smear in endometrial. lesions. An accuracy of 92.3% in the use of aspiration smear in corporal carcinoma was found. Jordan and Bader (1956) found an accuracy of 76% in vagino cervical smear whereas 84% in endometrial smear by endometrial aspiration technique.

Hecht (1956) studied 901 cases by endometrial aspiration smear between 26-71 years average being 51 years. 18.97% cases were bleeding postmenopausally, 5.77% had adenocarcinoma of the endometrium. In the postmenopausal

group 73.07% had positive smears. 57.69% cases of adenocarcinoma were detected by vaginal and cervical smears. Endometrial aspiration smear accurately detected 92.31%. There were 4 false positive In 69.17% curettings were performed. In 30.83% both the uterus and curettings were available. There were 6 cases in which adenocarcinoma of the endometrium was repeatedly diagnosed by endometrial smears and missed by curettage, removal of uterus showed adenocarcinoma in all these cases.

Timonen and Purola (1962), Johnsen et el (1973) and Burk et al (1974) diagnosed, endometrial carcinoma by vaginal and cervical smears. Results were showing 42.2% accuracy. Fox (1962) did endometrial brushing in 500 patients to correlate cytologlc and histologic findings obtained by curettage or hysterectomy.

Slaughter end Schewe (1962) performed 433 biopsies on 406 patients. 92% had abnormal vaginal bleeding. There were 68 patient in whom a diagnosis of malignancy of the endometrium was established, 57 patients (84%) had endometrium with biopsies which were reported as showing either malignancy or premalignancy of the endometrium. In 52 of these 68 patients of malignancy final diagnosis was confirm by hysterectomy. There were 11 instances in which no tissue was obtained with suction curettage in cases of endometrial

carcinoma , 9 of these were diagnosed by D & C and remaining by hysterectomy. Carcinoma cervix was the final diagnosis in 39 of the 406 cases with endometrial biopsy. There were 25% cases in which no tissue was obtained initially by use of a suction curette but in which diagnosis was established by a repeat biopsy, D & C or hysterectomy. An accuracy of 76% was achieved in diagnosing carcinoma of endometrium.

Slaughter (1962) performed biopsy of endometrium by Novak suction curettage and reported 76% accuracy for endometrial cancer.

Rascoe (1963) conduct & his study on 6416 patients and obtained vaginal and aspiration smear and performed diagnostic curettage, 103 malignancies were diagnosed.

Wildhack and Graham (1964) reviewed patients with postmenopausal bleeding. A total of 638 cases were reviewed and biopsy was done, 149 were rejected. 489 cases were considered suitable. endometrial biopsy was performed in 302 (61%) of the cases. Procedure was carried in cancer of corpus (71%) and benign postmenopausal bleeders (53%). In 187 cases (39%) endometrial biopsy could not be performed. Majority of the patients were in the age group 50-70 years. Cancer was diagnosed in 131 cases, 116 adenocarcinoma , 11 adenocanthomas carcinoma and 2 metastatic lesions. In 121

cases the diagnosis was benign. In 50 cases tissue was insufficient for histologic diagnosis.

Denis and Barnett (1973) stated that vaccum curettage was applied for diagnosing uterine carcinoma in patients with abdominal uterine haemorrhage. 640 patients underwent suction curettage by Vabra aspirator. 18 were diagnosed as adenocarcinomas. There was high accuracy in diagnosing endometrial hyperplasias.

American Cancer Society (1973) stated that to approach 90-95% accuracy of current screening methods for endometrial malignancy, it is necessary to obtain cells directly from cavity.

Mathews et al (1973) did a comparison of vaccum aspiration and conventional curettage in abnormal, uterine haemorrhage Vaccum aspiration proved to be more effective than curettage in obtaining at least some material from inside the uterus. 10% cases of vaccum aspiration were abandoned because of the inability of cannula to be introduced. Aspiration technique for cytological diagnosis is available for more than 35 years and reports accuracy upto 84 to 93%.

Cohen et al (1974) performed screening for endometrial cancer by vabra aspirator and reported an accuracy of 95% over all with 100% correlation is cystic and adenomatous hyperplasia and frank carcinoma. Aspiration device with 84.4%

accuracy for detecting endometrial adenocarcinoma was accepted.

Issacs and Withoite (1974) strongly proposed the validity of aspiration cytology. According to this study, the diagnosis of endometrial carcinoma by cervicovaginal smear does not approach the accuracy enjoyed by squamous cell carcinoma of the cervix. This study employed a new disposable endometrial aspirator. There were 160 postmenopausal women in whom an endometrial smear was obtained as an office procedure. There were 186 aspirates obtained in hospital patients. The smear was taken just prior to diagnostic curettage. The accuracy of the endometrial smear was same as obtained by curettage (85.7%).

Muenzer et al (1974) obtained endometrial aspirates in 983 out patients and in 500 patients hospitalized for diagnostic D & C or hysterectomy. All hospitalized patients were aged 40 or above. The outpatient group varied from 29-81 years Endometrial carcinoma was diagnosed histologically on surgical specimen in 32 of the 500 hospitalized In 27 (84.4%) of the 32 cases endometrial carcinoma was detected by cytologic examination of the aspirate. In 5 patients (15.6%) the aspirate did not show malignant cells, although adenocarcincua was found In the surgical specimen. In 6 cases adenocarcincua was suspected from examination of the aepiiat. and was not found

histologically. 4 of these cases revealed endometrial curettings that were abnormal but benign including 3 with endometrial polyps. This study showed 84.4% accuracy in detecting endometrial adenocarcinoma by aspiration.

Vassilakos et al (1975) reported diagnostic accuracy of 99% cases by jet wash technique. By endometrial aspiration one unsatisfactory case was observed. Diagnosis, by Jet technique has been found to be extremely accurate, the accuracy rate approaroaching 90 to 100% for both cancerous and precancerous lesions.

Bernard et al (1977) studied the correlation between series of cases between intrauterine lavage and pathological examination of endometrium and surgical samples.

Dilatation and curettage was found by Vuopala (1977) to be most reliable technique fordiagnosis of intrauterine abnormalities. It was the standard technique by which most other techniques were compared.

Unfortunately false negative rate could be documented by only removal of uterus. In the course of research, malignant cells were detected in 75% of initial stage, while only 40% cases at stage two showed malignant cells.

Chiasson et al (1978) had presented a review of patients in whom suction and curettage of endometrium was performed as an office procedure. A total of 978 curettage were performed. In 14 cases the procedure was not completed primarily due to stenosis. 15 cases of adenocarcinoma, adenomatous hyperplasia of the endometrium were diagnosed.

The work on intracavity washing method indicated by various workers for early diagnosis of adenocarcinorna in various pathologies of endometrial mucosa was examined by Gambotto et al (1978). 29 patients with various endometrial pathologies were considered and the findings of cytological and histological examinations as the rnaterial obtained from the washing fluid were compared with those histological examination of the endometrium obtained by curetting. The value f the method was confirmed when the washing matter was examined histologically.

Haack et al (1979) did diagnostic vabra curettage without anaesthesia. The diagnostic certainly was just as good as with conventional curettage under anaesthesia.

Nikitina et al (1979) examined cytologically 172 uterine aspirations. Cancer in 89, non cancer process in 71 and in 12 cases aspiration specimens were obtained in reproductive period in proliferative and secretory phases of menstrual cycle.

It was shown that in a group of histogically verified observation in 45.8% a gynaecologist failed to recognize the true endometrial effect ; some cytological criteria elaborated were suggested, their combination helped to precisely diagnose cancer cytologically in 93.2% while various forces of hyperplasia in 89.8%.

Bibbo et el (1979) performed a study with endometrial aspiration and vaginal ectocervical and endocervical smears and correlated with D & C or hysterectomy. Diagnosis for 33 adenocarcinomas and one carcinosarcoma by vaccum was 100%. In 5 cases of atypical hyperplasia the detection rate was 100% by vaccum aspiration, while the vaginal ectocervical and endocervical aspirates were diagnostic in 67% of cases each. In the 5 cases of a typical hyperplasia the detection rate was 100% by vaccum aspiration and 20% by the vaginal ectocervical smears and endocervical aspiration. 30 cases of adenomatous hyperplasia were detected by vaccum aspiration but only 6% vaccum aspiration technique was more reliable in the detection of endometrial adenocarcinoma and its precursors.

Wolinska et el (1979) demonstrated a clear cell adenocarcinoma of endometrium using the cytological technique. Kawada (1979) in an important research finding stated that endometrial carcinoma is easily curable if detected early.

Ambiya et al (1981) made a study of 50 cases of endometrial aspirates. There were 43 cases with hypermoenrrhoea, 22 of them showed stromal elements and 10 showed broken glandular elements. No material could be obtained in 5 cases. In 1 case of suspected adenocarcinoma adenocarcinomatous cells could be obtained on aspiration which was confirmed on biopsy. In this study 90% cases had either hypermenorrhoea or post menopausal bleeding.

Favre et al (1982) studied intrauterine washing cytology of the 1,378 washings in 37.7% no anamolies, in 44.7% only benign disorders, in 2.4 cells suspected of being malignant, and in 5.2% malignant cell and 9.9% unfit for study. A total of 620 patients had biopsy curettage or hysterectomy for histologic studies. On histologic finding in 213 cytologically normal smears only 40.8% of them were confirmed histologically normal, 52.5% histology showed benign lesions of the endometrium mostly diffuse hyperplasias or polyps. Histologic findings in 317 cases where cytology showed benign lesions were normal endometrium 23.6%, benign changes 68.4% , adenocarcinoma of endometrium 1.5% unsatisfactory 6.6%. Among the 24 cases of cytology suspected of being malignant histologic examination confirmed 8 adenocarcinomas, 2 suspicious lesions and 14 benign disorders. Among the 66 cases with cytologically malignant specimens, histology

confirmed malignancy inn 59 instances, 7 (10.6%) did not correlate. The results show that a positive correlation with histology existed in 89.4% of the cases with a cytologic diagnosis of malignant disease.

Agarwal et al (1985) studied aspiration cytology smear of 200 cases. Proliferative phase was found in 35.5% cases, Secretory phase in 45% cases, simple and cystic hyperplasia was seen in 2.5% cases and 3% cases were of malignancy and in 2% cases material was inadequate for diagnosis. In all the above cases endometrial biopsy was done and histopathological finding were studied 41% cases were of proliferative phase, 43% of secretary phase. 7% cases of simple and cystic hyperplasia, 1% of adenomatous hyperplasia, 2.5% cases of malignancy and 3% cases inadequate. Positive correlation between cytological and histological findings in malignant cases was 83.3% while in hyperplasia was 63.3%. In suspicious or atypical cases correlation was 100%. The patients studied were between the age of 40-70 years. Most of the patients in the study were multi parous. 95 patients were postmenopausal and 15 cases were premenopausal.

Glenthaj A. et al (1986) studied brush cytology from the uterine cervix, incidence rate per 100,00 is still around 18 Demark. .

Cherkis RC et al (1988), studied significance by normal endometrial cells detected by cervial cytology of 440 women with normal endometrial cells endometrial evaluation. Endometrial disease was identified in 64 (35.7%) of these patients having endometrial sampling or hysterectomy within 12 month of the cytological evaluation. These lesion included 21 cases (11.7%) of endometrial carcinoma 23 cases (12.9%) of endometrial hyperplasia and 20 cases (11.2%) of adenocarcinoma.

Lopolla et al 1990 studied endopap device for the cytologic detection of uterine cervix and its precursors : a comparison of the endopap with fractional curettage or Hysterectomy was done in 249 patients with symptoms. The sensitivities for the detection of primary corpus cancer and hyperplaisa were 0.90 (59/66) and 0.58 (18/31) respectively. All six cases of typical endometrial hyperplasia were detected by the endopap device. Malignant endopap cytologic finding were present in 4 of 10 patients with a primary adnexal malignancy and normal endometrial histologic finding were present in 4 of 10 patients with a primary adnexal malignancy and normal endometrial histologic findings. 92% of primary uterine cervical cancers were detected by endopap cytologic sampling . The specificity

for the cytologic diagnosis of benign conditions was 0.93. Endopap cytologic sampling has a reasonably high sensitivity for the detection of uterine cancers and preinvasive endometrial lesions with a high risk of progression to carcinoma.

Paowati et al 91991) studied false negative pap smears from women with cancerous and precancerous lesions of the uterine cervix from 1980 to 1989. The 4,781 cases of cancerous (2814 invasive carcinoma & 593 carcinoma-in-situ) and precancerous lesions (418 severedysplasia, 748 moderate dysplasias and 208 mild dysplasia included 70 cases (1.5%) with false negative smears. These 70 cases included 43 invasive carcinoma (61.4%), 17 carcinoma in situ and adenocarcinoma in situ (24.2%) and to dysplasia (14.4%) all were diagnosed histogolically. The means age of women with false negative smears was 44.1 +/- 13.7 years. Review of the original cytologic samples showed a screening error in 41 cases (58.5%), intrepretation error in 2 cases (2.9%) and a sampling error in 27 cases (38.6%).

Zuna Re Erroll et al (1996) studied retrospectivcaly utility of the cervical cytologic smear in assessing endocervical involvement by endometrial carcinoma preoperative smear and endcervical curetting were compared with the status of the endocervix in the hysterectomy specimens Two patients of

malignant endocervical cells are identified in the 25 positive smears (l) a sloughing pattern which was the classic round cell pattern associated with the exfoliation of endometrial cancer cells (2) an abraded pattern in which the cancer cells were present as loosely cohesive sheetlike groups that retained the original cells shape.

Kin Tj kimts et al 1999 studied to evaluate the efficiacy of the follow-up methods and routes of AGUS detected on cervicovaginal pap smears in 407, 451, Of which 326 patients were identified as AGUS of 326 patients 268 was followed by repeat pap smears cone biopsy or endometrial curetting.

The incidence of AGUS on pap smears is approximately 0.08% mean age of the patients was 43 years (22-79 cases) most common complains was vaginal bleeding. Gross findings of cervix were normal to mild erosion. Benign lesions detected during follow-up were 6 micro glandular hyperplasia,.5 atypical squamous metaplasia of cervix, 2 cervical endometrosis & uterine adenomyosis. The premalignant or malignant lesions of the cervix were 4 ISIL , 24 HGIL and 4 invasive adenocarcinoma. The neoplastic lesions of the uterine were 6 endometrial hyperplasia 11 endometrial adenocarcinoma. 77 (25%) of 268 patients followed up were identified as having clinically significant lesions of cervix or uterus, The detection

rates of abnormal lesions were 3.1% in repeated papsmears (3/98), 63.6% with cone biopsy (35/55) and 29.7% with endometrial curettage (19/64).

Chin AB et al 2000 studied significance ACUS on routine cervical cytologic testing in 48890 , women over period of 12 month. Of 48890 smear 141 (0.29%) were diagnosed with AGUS of these 64 (51.2%) were monitored further 26 (66.7%) were of squamous origin 4 (10.3%) had glandular cervical lesions, 2 benign polyps and 2 carcinoma-in-situ. 7(19.9%) had endometrial lesions , one had ovarian cystoadenocarcinoma of this study it was concluded that incidence of AGUS was 0.29%.

Obenson K. Abreo f et al 2000 studied cytohistologic correlation between AGUS & biopsy detected lesions in post menopausal women. They studied retrospectively 30 patients overage 50 had cervical smears interpreted as AGUS and had follow-up biopsies within 12 months following the abnormal smear. Of these 5 smears had AGUS favour reactive revealed abnormal histology in four cases, 3 endometrial polyps & one squamous carcinoma. Two smears interpreted as AGUS favour dysplasia revealed squamous intra-epithelial lesions. on biopsy in both cases, 17 smears interpreted as AGUS favour endometrial cells, revealed abnormal histology in 13 cases, endocervical polyps, 6 endometrial polyps 3 endometrial

hyperplasia & 3 adenomyosis six patients with smears interpreted as AGUS, unclassificable , revealed abnormal histology in 5 cases : two endocervical polyps, one endometrial polyp, one endometrial carcinoma & one ovarian carcinoma so , it was conducted that cervical smears was highly predictive of abnormal lesions detected by histologic examination.

Material & Method

Material & Method

MATERIAL AND METHOD

Present study was carried out in the department of Obstetrics and Gynaecology in Maharani Laxmibai Medical College and Hospital, Jhansi in the period of twelve months.

Selection of Cases

Study group - Further divided into

(A) Reproductive age group with complaints.

(B) Menopausal age group with complaints.

Patient being the following complains were studied

(i) Excessive discharge per vagina

(ii) Pain in lower abdomen or back.

(iii) Irritation or itching vulva.

(iv) Suspicious naked eye appearance of cervix.

(v) History of Known diethyl stil boesterol exposure.

(vi) Patients in whom a suspicious or positive smear is obtained.

(vii) Menstrual abnormalities.

- Menorrhagia
- Polymenorrhoea
- Metrorrhagia
- Continuos bleeding
- Post menopausal bleeding
- Post coital bleeding
- Intermenstural bleeding

3. Control group - follow up cases of normal delivery abortions and sterilization .

Clinical examination .

(1) History

Detailed history of presenting complaints was taken along with duration of complaints, obstetrical history under the headings of gravida, parity, year, month, date of last delivery and number of abortion noted. The menstrual history was taken under the headings cycle which include the number of days the flow lasted and the duration of menstrual cycle the amount of flow and the date of the last menstrual period . enquiry about family history of diabetes and cancer cervix was also made along with history of any venereal discase, pelvic inflammatory disease or drug in take in the past .

(ii) General examination

Thorough general examination was done with special alteration as regards to general condition, pulse, blood pressure, anemia, jaundice and weight of the patient .

(iii) Per vaginum examination

Per vaginal examination was done to know the size and consistency of the uterus, the condition of the tubes and ovaries and any evidence of pelvic inflammation, any type of bleeding was also noted.

(iv) Per speculum examination .

Per speculum examination was done to inspect the condition of cervix and vagina, types of discharge and to see whether the bleeding was from the os, or from other areas in the vagina or polyp or growth or erosions and discharge .

VAGINAL SMEAR

Guidelines.

For preparing smears for gyneacological cytology ayre's spatula is used and the material is collected from the following sites .

(A) lateral vaginal wall

(B) Posterior fornix

(C) Ectocervix

(d) Endocervix

For diagnosis of premalignant and malignant for lesions of the cervix ecto and endocervical scrapes obtained with ayre`s spatula are the best, posterior vaginal material usually contain desequamated cells which may be degenerated. therefore for only detection of cervical cancer it is imperative to scrape ecto and endocervix with ayre's spatula .

Ayres spatula is made of wood having two ends was used for taking vaginal and cervical smears, with flat end vaginal

smear was taken from the posterior fornix and with the hooked end cervical scrapping was taken, cervical punch biopsy forcep was used for taking cervical biopsy.

A uterine cannula made of steel and 20a glass syringe were used for aspiration from the endometrial cavity and on endometrial curette having serrations at proximal end a wire inserted through the distal end was used for taking the biopsy from the endometrial cavity.

Preparation of the patient

A written consent of the patient was taken, she was asked to evacuate her bladder. Cases who were unable to evacuate the bladder was catherized, no sedition was given to the patient before doing vaginal, cervical and endometrial aspiration cytology, 10 mg diazepem was given doing endometrial & cervical biopsy.

Patients were made to lie down in lithotomy position.

Technique of cytology.

Vaginal and cervical cytology.

Patient was made to the lie in lithotomy position. posterior vaginal wall speculum or sims speculum was applied and vaginal smear was taken from the posterior fornix with the flat end of the ayre's spatula and it was spreaded on the slide and

immediately fixed in cytology solution . the cervix was then visualized with the help of the anterior vaginal wall retractor and cervical smear was taken by scraping the squamo coloumnaer junction of the cervix with ayres spatula under direct vision by rotating it through 360° the material was spreaded on a glass slide which was immediately fixed in a glass bottle containing equal amount of ether and 80% alcohol

Endometrial Aspiration

The vulva was painted with antiseptic situation and vagina was cleaned by antiseptic lotion the part was draped by a cutsheet, vaginal examination was done to confirm the previous findings. Posterior vaginal wall was separated by sims speculum. The anterior vaginal wall retracted by anterior vaginal wall retractor, volsellum was used to hold the anterior lip of cervix. A uterine sound was passed to know the length of uterus and the patency of cervical os was determined. Endometrial aspiration cannula was passed into the uterine cavity negative pressure was created by a twenty ml syringe and negative pressure was maintained till the tip of the aspiration cannula had reach just beyond the level of the internal os and endometrial aspiration was taken.

A drop of the aspirated material was placed on a glass slide and a smear was made. These slides were immediately

fixed in glass bottle containing of equal amounts of ether with 80% alcohol.

TECHNIQUE OF BIOPSY

Endometrial biopsy

An endometrial biopsy curette was introduced and curettage of uterine cavity was done. The curettings obtained were placed in a bottle containing formalin.

Cervical Biopsy

A cervical punch biopsy was taken and a portion of the diseased cervix was taken and the piece was placed in a glass bottle containing formalin.

The tissue was then processed and sections were cut of five micron thickness. These section were placed on slides which were stained by haematoxylin and eosin staining. Then the slides were viewed under microscape.

Interpertation of Cytology Slides :

A. Normal : (Pap I) - Cells are with normal healthy appearance

B. Inflammatory:(pap II)- (Atypical squamous cells of undetermined significance)

Inflammatory smear shows increase in number of inflammatory cells predominantly polymorphs type in

acute infections and lymphocytes and occasionally plasma cells in chronic infection.

Increase in parabasal cells in young women and intermediate and superficial cells in older women.

Specific infestation of protozoan trichomonalis or fungus- monilia or viral papilloma virus or herpes.

C. Mild Dysplasia (papIII)- (CIN I) (Low SIL) (Low equomous intra epithelial lesions)

Cells are generally of the intermediate or superficial type There is slight nuclear enlargement with mild hyperchromasia with the capacity for normal squomous differentiation.

D. Moderate Dysplasia - (CIN II) (H-SIL) (High grade squamous intraepithelial lesions)

Cells are of parabasal type showing an increased nuclear cytoplasmic ratio. The nucleus is irregular with coarse chromatin pattern & scanty or only a ring cytoplasm is seen

E. Severe Dysplasia - (CIN III) (H-SIL) (High grade squmous intra epithelial lesion)

Cells are of parabasal type showing an increased nuclear cytoplasmic ratio. the nucleus is irregular with corase chromatin scanty or only a rim of cytoplasma is seen.

F. Cardinomo-in-situ (H-SIL) (high grade squamous intra epithelial lesion)

Parabasal cells have very large nuclei with irregularly dumped chromatin, Nuclear and cytoplasm ratio is markedly increased.

G. Invasive Carcinoma (Pap V)

A large nucleus with irregular nuclear membrane and irregularly clumped chromatin is present in keratinized squamous cell of different shape and size. There may also be malignant naked nuceli showing marked pleomorphism.

Endometrial Aspiration

The slides reveal outstanding cellular characteristics of various types of endometrial cells. Two main types of cells are recognized epithelial and stromal cells. Endometrial epithelial cells are present in aggregates or clumps. These cells are small and columnar to cuboidal in shape, with finely vacoulated cytoplasm and eccentrically placed nucleus having fine uniform chromatin.

Endometrial stromal cells can be derived from spongiosa or compact layer of functional endometrium. They may be shed in groups or singly. These cells are small, round or irregular and showing variation in size. Nucleus is eccentric, round and has prominent granular chromatin pattern.

The cellular diagnosis of proliferative endometrium is made by presence of an active chromatin nuclear pattern and absence of cytoplasm vacuolization is endomaterial epithelial cells.

Diagnosis of secretory endometrium by cell study depends on comparatively less activity of nucleus and some evidence of vacuolization of cytoplasm in endometrial epithelial cells.

Diagnosis of cystic and stromal hyperplasia is based on presence of large numbers of hyperchromatic endometrial stromal cells usually clumped or in extensive sheets. Cellular smears of adenomatous hyperplasia tend to have typical clusters or groups of endometrial epithelal cells and may be difficult to differentiate from cells noted, in cases of endometrial polyps.

Malignant cells from endometrium (Adenocarcinoma) may desquamate in groups or less frequently as isolated cells. The malignant endometrial cell is larger and round oval or columnar. The nucleus is round, oval showing pleomorphism or deformed and pushed aside by cytoplasmic vacuolation. The chromatin is irregularly distributed, hyperchromasia is usually moderate. Nuclear hypertrophy is a fairly content characteristic. The cytoplasmic borders are usually indistinct when intact this cytoplasm is pale and esoinophilic and exhibited one or several large vacuoles or it may be foamy due to numerous microvacuoles.

Interpretation of Histology Slides :

Endometrial biopsy

(a) Prolifeative

The stroma is dense and compact. The glands are tall rounded and lining is of tall columnar epithelial cells. There is no secretion in glands. The blood vessels are cork-screw shaped.

(b) Early Secretory Phase

A subnuclear vacuole appears and this gradually moves towards periphery of cell and is then extended into the lumen of the gland. The stroma is loose, the blood vessels are dilated.

(c) Late secretory phase :

The glands are filled with secretion. The luminal borders are frayed. The stroma is loose and shows decidual reaction. There is infiltration of leucocytes.

(d) Endometrial hyper plasias :

Silverberg classified the hyperplasias into four categories which is morder of increasing severity are called simple, cystic, adenomatous and atypical.

(i) Simple hyperplasia

There is increased thickness of endometrium, increased crowding of glands and evidence of estrogenic activity . The glands of simple hyperplasia are generally small round and regular and fail to show cellular atypia. The glands are

generally crowded and the morphology of the proliferative phase is universally encountered.

(ii) Cystic Hyperplasia

Co-existence of large cystically dilated glands and small round glands in a voluminous endometrial of gland.Glands are round in shape neither any irregularity nor cellular a typical is encountered. There is stratified epithelium with proliferative activity seen in cystic hyperplasia.

(iii) Adenomatous hyperplasia :

Above findings plus irregularity and abnormal shape of the hyperplastic endometrial glands. A typical finding is the presence of small buds projecting from larger often cystically dilated glands. Amount of endometrium obtained at currettage is more voluminous in adenomatous hyperplasia then in the less severe forms.

(v) Endometrial Carcinoma

Endometrial adenocarcinoma are usually glandular in pattern with a smaller percent being papillary. Increasing anaplasia of the tumor is manifasted by a tendency to grow in solid nests or sheets with less formation of glands or papillae.

Grade I adenocarcinoma are composed entirely of tumor growing in glandular or papillary pattern. Grade II tumors here an intermediate pattern of growth there is moderate differentiation of tumor cells manifesting predominantly glandular elements but with a mixture of solid growth pattern

Grade III tumors comprise of poorly differentiated lesions growing predominantly in solid sheets of cells.

Carcinoma in situ is used to denote a small focus of tumor in an otherwise benign curetting. There is tufting & infolding into glands lumen. The cells in each instance are tall and pale and even with hyperplasia. There may be some evidence of secretory activity.

CERVICAL BIOPSY

On cervical biopsy following findings are present.

(a) Chronic Cervicitis

Characterized by an extensive subepithelial inflammatory infiltrate of plasma cells with scattered polymorphs nuclear leucocytes and large mononuclear cells. The epithelium may be quite normal, flattened to appear cubical or squamoid or desquamated .

(ii) Mild Dysplasia -

The neoplastic cells extend one quarter to one third of the way from the basal layer to the surface.

(iii) Moderate Dysplasis :

The cellular aberrations extend through one half of two third of the thickness of the epithelial layer. The atypia includes the small cell non keratinizing, the large cell non kerathizing

and the large cell keratinize varities. The loss of polarity and the general disarray of the growth patterns are prominent.

(iv) Severe Dysplasia

The anaplastic cells penetrate through 75 - 90% of the epithelium loss of polarity & disarry of ells in the deeper zone may be associated with early stromal invasion or microinvasion even through complete loss of stratification is not present.

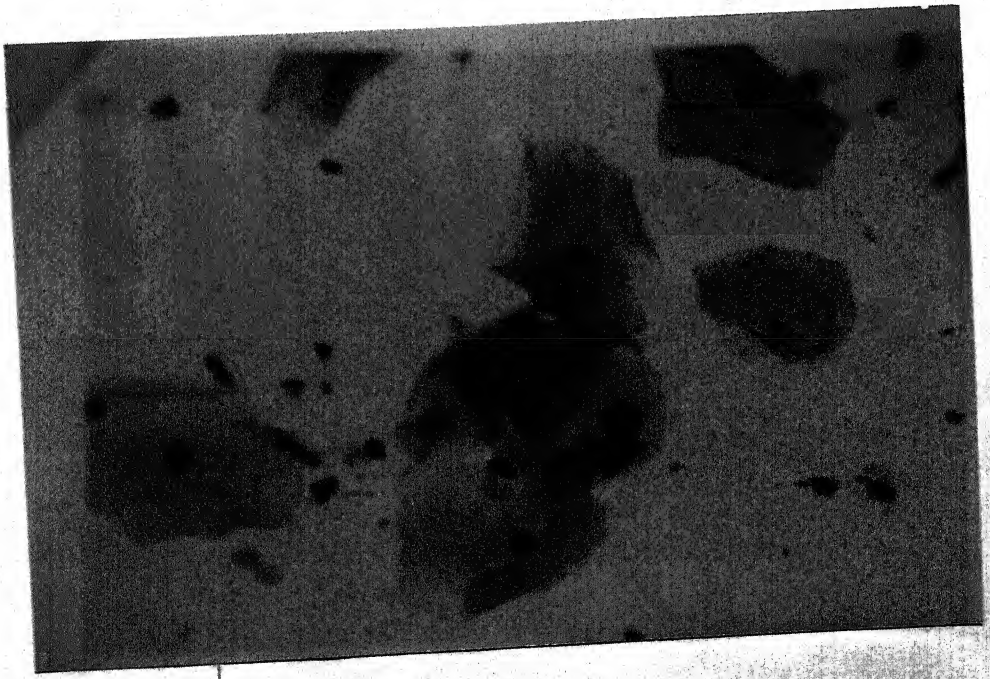
(v) Carcinoma-in-situ

Lesion in which the entire thickness of the squamaous epithelial layers is replaced by cells microscopically indistinguishable from those of frank cervical cancer with complete loss of stratification but with no evidence of stromal invasion.

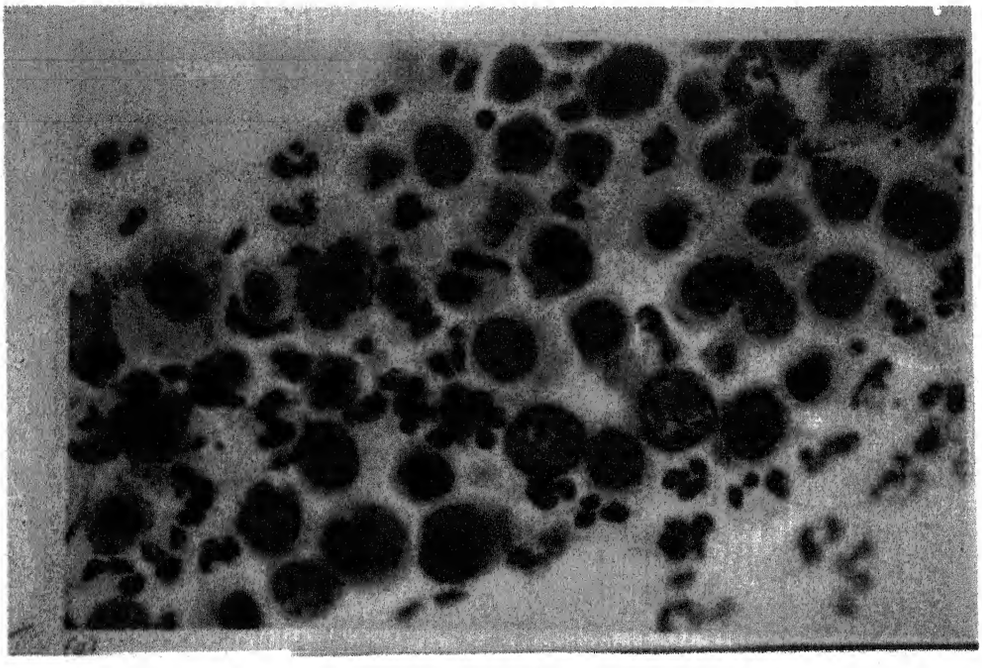
(vi) Microinvasive Carcinoma -

A lesion is properly considered invasive, if there is breakthrough of so called basal lamina with cancer cells spreading into the stromal tissue, there is a tendency towards an abundant cosinophilic cytoplasm.

C.I.N. - I



C.I.N. - II



C.I.N. - III

Observations

OBSERVATION

The present research report pertains the study of cases which were studied in outpatient department and admitted in wards of M.L.B. Medical College Hospital , Jhansi. These cases were from different ethnic background of this region. The cases studied have been categorized in various tabular forms covering various parameters of the study. The observed result are mentioned in various tables :

TABLE : I

Distributing of cases according to age

S. No	Group	Age in years	Cervical lesions		Abnormal Uterine bleeding	
			No. of cases	% of cases	No. of cases	% of cases
1.	A	25-30	32	21.33	09	09.00
2.	B	31-35	08	05.33	07	07.00
3.	C	36-40	42	28.00	29	29.00
4.	D	41-45	24	16.00	25	25.00
5.	E	46-50	24	16.00	17	17.00
6.	F	51-55	05	03.33	03	03.00
7.	G	56-60	10	06.66	06	06.00
8.	H	61-65	02	01.33	03	03.00
9.	I	66-70	01	0.66	01	01.00
		Total	150	100.00	100	100.00

Table I shows the distribution of cases according to age Group A shows 32 (21.33%) group B 8 (5.33%), Group C shows maximum number of cases of cervical that is 42 (48%), Group D 24 (16%), Group E 24 (16%), Group F 5 (3.33%) , Group G 10 (6.66%), Group H 2 (1.33%) and Group I (0.66%)

In abnormal uterine bleeding maximum number of cases are in group D 25 (25%), Group A 9 (9%) Group B 7(7%) , Group C 29 (29%), Group I 17 (17%) Group G 6 (6%) Group H 3 (3%), Group I 1(1%) respectively and thus minimum number of cases in these groups.

TABLE : II

Distributing of cases according to parity

S. No.	Parity	Cervical lesion		Abnormal Uterine bleeding	
		No. of cases	% of cases	No. of cases	% of cases
1.	Nulli	00	00.00	00	00.00
2.	1	01	00.66	00	00.00
3.	2	29	19.33	11	11.00
4.	3	53	35.33	36	36.00
5.	4	34	22.66	22	22.00
6.	5	16	10.66	14	14.00
7.	6	05	03.33	00	06.00
8.	7	12	08.00	11	11.00
	Total	150	100.00	100	100.00

Table II shows distribution of cases according to parity. In cervical lesions maximum number of cases were observed in parity three 53 (35.33%) then, 34 cases in parity four (22.66%) 29 (19.33%) in parity two, 16 (10.66%) in party five, 12 (8%) in parity seven, 5 (3.33%) in parity six , 1 (0.66%) in parityone and none in nulli parity.

In abnormal uterine bleeding maximum number of cases were seen in 36% in parity three ten 22% cases in parity, 14% cases in parity five, 11% cases in parity eight & three , 6% cases in parity six, and No. case in prinipara and nullipara respectively.

TABLE : III

Distribution of cases into premenopausal and post menopausal groups.

S. No.	Post menstrual period	Cervical lesion		Abnormal Uterine bleeding	
		No. of cases	% of cases	No. of cases	% of cases
1.	Premenopausal	128	85.33	81	81.00
2.	Postmenopausal	22	14.66	19	19.00
	Total	190	100.00	100	100.00

Table III reviews the cases according to distribution in premenopausal and postmenopausal groups.

In cervical lesions 128 cases (85.33%) were seen in premenopausal group and 22 cases (14.7%) were seen in post menopausal group.

In abnormal uterine bleeding 81 cases (81%) were in pre menopausal group and 19 cases (19%) were observed in post menopausal group.

TABLE : IV

Distribution of cases according to p/v & p/s findings

S. No.	Findings	Cervical lesion		Abnormal Uterine bleeding	
		No of cases	% of cases	No of cases	% of cases
1.	**P/V Uterine**				
	Normal	86	97.33	49	49.00
	Bulky (Enlarged)	45	30.00	32	32.00
	Atrophic	19	12.66	19	19.00
	Total	150	100.00	100	100.00
2.	**P/S Cervix**				
	Healthy	Nil	00.00	-	-
	Erosion	99	66.00	63	63.00
	Cervicites	43	28.66	29	29.00
	Grwoth	08	05.33	08	08.00
	Total	150	100.00	100	100.00

Table No. IV shows the distribution of cases according to per vaginum (P/V) and per speculum (P/S) examination. On P/V findings in cervical lesions 86 (57.33%) has normal size uterus, 45 (30%) had bulky uterus, 19 (12.66%) had atrophic uterus, on P/S findings 99 (66%) cases had erosion , 43 (28.66%) had cervicitis 8 (5.33%) had growth.

In cases of abnormal bleeding on P/V 49% cases showed normal uterus, 32% showed bulky uterus, 19% showed atrophic uterus, and on P/S findings 63% had erosion, 29% had cervicites 8% had growth.

TABLE : V

Diagnosis of cervical lesions

S.No.	Diagnosis	No. of Cases	% of cases
1.	Erosion	99	66.00
2.	Cervicites	43	28.66
3.	Growth	08	05.33
	Total	150	100.00

Table No. V shows diagnosis of cases in cervical lesions 99 (66%) had erosion , 43 (28.66%) had cervicitis , 8 (5.33%) had growth over cervix including cauliflower growth and polyps, indurations and irregular cervix.

TABLE : VI

Diagnosis of abnormal uterine bleeding

S.No.	Diagnosis	No. of Cases	% of cases
1.	Menorrhagia	24	24.00
2.	Metrorrhagia	07	07.00
3.	Polymenorrhagia	27	27.00
4.	Contact bleeding	12	12.00
5.	Menometrorrhagia	08	08.00
6.	Post menopausal bleeding	22	22.00
	Total	100	100.00

Table No. VI shows diagnosis of abnormal uterine bleeding, maximum number of cases 27% had polymenorrhagia, 24% had menorrhagia 22% had post menopausal bleeding , 12% had contact bleeding 8% had menometrorrhagia and 7% had metrorrhagia.

TABLE : VII

Cytology and histology of cervical lesion

S. No	Cytology			Cervical Biopsy		
	Cytology	No. of Cases	% of cases		No. of Cases	% of cases
1.	Normal	30	20.00	Normal	02	0.00
2.	Inflammatory	48	32.00	Cervicites	21	42.00
3.	Mild dysplasia	31	20.66	Mild dysplasia	12	24.00
4.	Moderate dysplasia	22	14.66	Moderate dysplasia	07	14.00
5.	Severe dysplasia	05	03.33	Severe dysplasia	03	06.00
6.	Carcinoma-in-situ	05	03.33	Invasive Carcinoma	03	06.00
7.	Invasive Carcinoma	04	02.66	Inadequate	02	04.00
8.	Inadequate	05	03.33			
		150	100.00		50	100.00

Table No. VII shows the cytology and histology of cervical lesions. In cases of cytology maximum number of cases 48 (32%) showed inflammatory changes, 31 (20.66) had mild dysplasia, 22 (14.66%) had moderate dysplasia 5 (3.33%) had

severe dysplasia 5 (3.33%) had carcinoma-in-situ, 4 (2.66%) had invasive carcinoma and 5 cases (3.3%) were inadequate for cytology.

Cervical biopsy done in 50 cases maximum number of cases 42% showed cervicitis 24% had mild dysplasia,, 14% had moderate dysplasia, 6% had severe dysplasia, 6% had invasive carcinoma. 4% cases had inadequate tissue for histology.

TABLE : VIII

Percentage correlation between cytology and histology findings in cervical lesions.

S. No.	Diagnosis	No. of cases of cytology	No. of cases cervical biopsy	Percentage correlation
1.	Inflammatory	48	23	72.89
2.	Mild dysplasia	31	12	97.29
3.	Moderate dysplasia	22	07	95.45
4.	Severe dysphasia	05	03	60.00
5.	Invasive Carcinoma	04	03	75.00

Table No. VIII shows the percentage correlation between cytology and histology findings. in cervical lesions, 48 inflammatory cases was seen by cytology 23 by biopsy showing 72.89% correlation, 37 case of mild dysplasia were seen by cytology and 12 case by biopsy & correlation 97.24%, 22 cases of moderate dysplasia were seen by cytology and 7 cases by biopsy and correlation was 93.45% 5 case of severe dysplasia was seen by cytology and 3 case by biopsy, correlation was 60%, Invasive carcinoma was shown in 4 cases by cytology 3 cases by biopsy and correlation was 75%.

TABLE : IX

Hysterectomy findings of cervical leions of 50 cases

S.No.	Diagnosis	No. of Cases	% of cases
1	Endometrium		
	Proliferative	29	58.00
	Secretory	18	36.00
	Hyperplasia	03	06.00
2.	Myometrium		
	Normal	35	70.00
	Leiomyoma	06	12.00
	Adenomyosis	09	18.00
3.	Cervix		
	Normal	02	04.00
	Cervicites	11	22.00
	Mild dysplasia	12	24.00
	Moderate dys.	07	14.00
	Severe dysplasia	05	10.00
	Carcinoma	03	06.00
	Total	50	100.00

Table No. Ix shows hysterectomy findings of 50 cases performed in cases of moderate to severe dysplasia and in cases of invasive carcinoma and in some cases of chronic cervicitis, where family was complete and some patient had some bleeding disorders. Moderate dysplasia was seen in 7 cases (14%) severe dysplasia in 5 (10%) cases carcinoma in 3(6%) cases.

TABLE : X

Cytology and histology of abnormal uterine bleeding

S. No.	Aspiration Cytology			Endometrial Biopsy		
	Diagnosis	No.of Cases	% of cases	Diagnosis	No. of Cases	% of cases
1.	Normal	39	78	Proliferative	26	52
2.	Hyperplasia	04	08	Secretomy	14	28
	(i) Simple	01	02	Hyperplasia	06	12
	(ii) Cystic	02	04	(i) Simple	01	02
	(iii) Adenomatus	01	02	(ii) Cystic	02	04
3.	Suspiciously Malignancy	02	04	(iii) Adenomatus	02	04
4.	Malignancy	02	04	Malignancy	01	02
	Inadequate	03	06	Inadequate	04	08
	Total	50	100.00	**Total**	50	100.00

Table No. XI shows the cytology and histology of abnormal uterine bleeding by aspiration cytology. 78% normal smear , 8% had hyperplasia (2% simple, 4% cystic, 2% adenomatus) 4% cases were suspicious of malignancy, 4% cases shared malignancy.

Inadequate material was present in 6% and no diagnosis could be made. This was due to stenosed cervical os where cannula could not be passed on 3% of cases and 3% of case had blood stained material or debris and no diagnosis could be commented.

In performing endometrial biopsy, 52% cases had proliferative phase, 28% had secretomy phase 12% cases had hyperplasia (Simple 2% , Cystic 4%, adenomatus 4%) malignancy was seen in 2% cases and 8% cases were found inadequate for diagnosis.

TABLE : XII

Correlation between findings of aspiration cytology and endometial biopsy in 50 cases

S. No.	Diagnosis	No. of cases of Aspiration cytology	No. of cases of endometrial biopsy	% correlation
1.	Normal	39	40	90.25
2.	Simple Hyperplasia	01	01	100.00
3.	Cystic Hyperplasia	02	02	100.00
4.	Adenometus Hyperplasia	01	02	20.00
5.	Malignancy	02	01	50.00

Table No. XII shows percentage correlation between aspiration cytology and endometrial biopsy findings. In aspiration cytology 30 normal smears and 40 normal smears were seen in endometrial biopsy showing 90.25% correlation there was one case of simple hyperplasia, was present in cloth showing 100% correlation, there were 2 cases of cystic hyperplasia present in both groups, showing 100% correlation, ademnomatous hyper plasia biopsy showing 50% correlation 2 malignant cases were seen by aspiration cytology & 1 by endometrial biopsy showing 50% correlation.

TABLE : XIII

Hysterectomy finding of abnormal uterine bleeding in 15 cases.

S.No.	Hysterectoy findings	No. of Case	% of case
1.	Endometrium		
	Normal	12	80.00
	Hyperplasia	03	20.00
	(a) Simple	-	-
	(b) Cystic	02	13.33
	(c) Adenomatus	01	06.66
2.	Myonetrium		
	Normal	13	86.66
	Leiomyone	02	18.33
	Adenomyosis	01	06.66
3.	Cervix		
	Normal	10	80.00
	Cervicites	02	13.33
	Growth	01	06.66
	Total	15	100.00

Table No. XIII shows the hysterectomy findings of abnormal uterine bleeding in 15 cases, endometrium was normal in 12 (80%) cases hyperplasia was seen in 3 (20%) cases, malignancy was seen in 1 (6.66%) cases, Myometrium was normal in 86.66% cases, myoma present 13.33% & Adenomyosis in 6.66% cases, Cervix was normal in 80% cases cervicites present in 13.33% cases & growth present in 6.66% of cases.

TABLE : XIV

Correlation of aspiration cytology and endometrial biopsy with hysterectomy findings

S. No.	Diagnosis	Cytology	Biopsy	Hysterectomy
1.	Normal	39	40	12
2.	Hyperplasia	04	05	03
3.	Carcinoma	02	01	01

Table No. XIV shows the correlation of aspiration cytology and endometrial biopsy with hysterectomy findings. 12 Cases were normal by hysterectomy & 39 by Cytology & 40 by biopsy. Hyperplasia was the present in 3 cases of hysterectomy, 5 cases by biopsy, 4 cases of cytology, malignancy was present in 1 case by hysterectomy & & 2 cases by cytology therefore correlation between biopsy & hysterectomy for malignancy is 100%.

Discussion

DISCUSSION

In present study, we studied one hundred and fifty cases having cervical lesions and abnormal uterine bleeding by cytology and histology and correlating then with hysterectomy findings in order to evaluate the important of cytological and histological examination in diagnosis of precancerous and cancerous lesions amongst gynaecological disease.

In 150 cases, we had patients in the age group of 25-70 years, maximum number of cases were observed in the age group 36-40 years (28%). This study correponds to the study of Wahi et al (1969) who studied patients in the age group of 18-80years. Hameed et al (1976) studied patients in the age group of 20-65 years and Anuja and Reddy 1978 reported patient ranging in the age group of 20-75 years. These findings thus corresponds to study.

In distribution of cases according to parity in our study maximum number of cases were with parity four which signifies that dysplasia and malignancy is a disease of multiparous group. This corresponds to the study of Aikat et al (1979), Anuja and Reddy (1976), who reported 92-95% cases to be multiparous and 4.34% as nulliperous. In our study no nulliparous case was seen and only one primipare.

In our study maximum number of cases maximum number of cases, 85.33% were in premenopausal group and 14.60% in postmenopausal group.

On diagnosing cervical lesions clinically there were 66% cases with erosion cervix 28.66% cases with cervicites and 5133% cases with growth over cervix including polyps, cauli-flower like growth, induration and irregular cervix 35% cases with erosion and 17.7% with chronic cervicities. In our study no cases with healthy cervix were included cases which were suspicious were studied. A high dysplasia rate in erosion cervix cases had also been reported by Graid et al (1983) in a mass screening programme conducted in urban and rural community of Bombay. Since the erosion cervix in probability, predisposes to the premalignancy and ultimately malignant changes in the cervix (Rein and Chaipel 1975), cytological evaluation is mandatory for this category which may yield large number of early neoplasm further it should be pointed out that the prevalence of cervical dysplasia was found to be highest in the women whose cervix bleeds on touch.

On cytological examination by vaginal pool smear and cervical cytology we reported 20% had a normal smear, 32% inflammatory smear, mild dysplasia in 20.66%, moderate dysplasia in 14.66% cases, severe in 3.33%. This dysplasia was

and in few cases of chronic cervicites who had completed their families and had other bleeding disorders patients with carcinoma cervix were referred for radiotherapy, no wertheim's hysterectomy was performed and other patients treated with medicines. On histopathology findings of specimen, cervicites present in 17 cases, mild dysplasia in 12, moderate in 7, severe in 5 cases, carcinoma in 3 cases respectively. In severe dysplasia there was 100% correlation hysterectomy & cytology , 60% with hysterectomy and biopsy for carcinoma , there was 75% correlation in hysterectomy with cytology, 100% correlation of hysterectomy with biopsy.

In this study out of 150 patients 100 patients out were with complained of bleeding per vagina, endometrial carcinoma was diagnosed by aspiration cytology and endometrial biopsy and confirmed by hysterectomy.

In our study patients included were in the age of 25-70 years maximum number of cases 29% were in age group 35-40 years. Sagar et al (1981) studied patients between the age group of 40-70 years and maximum cases were in age group 40-45 years which is comparable to our study. Agarwal et al (1984) reported cases in age group of 30-70 years comparable to our study. Kistoner et al (1973) reported cases in age group of 56-70

years. In our study patient with endometrial carcinoma belonged to same age-group.

Maximum number of cases in our study were of multiparous group. Although carcinoma endometrial is found mostly in multiparous or females with uniparity but cases that come to our hospital had 30% cases with parity 3, 22% with parity 2, 14% with parity 5, 6% with parity 6 , 11% with parity 7 & parity 2, there was no nalliparous, or primipara in our study is comparable to study of Sagar et al (1981) where 2.6% cases were nulliparous & 3.47% were uniparous while the rest that is the majority of case were multiparous. Agarwal et al (1984) also reported maximum cases to be multiperous and 26% with parity6 .

In the present study 85.33% of cases were in pre menopausal period and 14.66% were in post menopausal group. Agarwal et al (1984) reported 69% cases in premenopausal and 22% cases in postmenopausal group. These findings corresponding to that of our study.

Bleeding per vagina was common complaint of maximum patient including menorrhagia metrroragia, polymenorrhagia and contact bleeding. Vuopala (1977) showed that 69.20% cases had uterine bleeding, Sagar (1981) showed 62.6% cases of abnormal uterine bleeding, Agarwal et al (1984) reported 67% cases of

abnormal uterine bleeding. This bleeding was the common complaint of most of the workers (Wild back and Graham 1964, Swinger et al 1979). On study finding corresponds to all this Agarwal et al (1984) show 28.09% cases of post menopausal bleeding In present study are 22% cases of post-menopausal bleeding.

Cases were subjected to endometrial aspiration and slides were reviewed. During cytological study 78% cases showed normal. Benign hyperplasia was present in 2%, adenomatous in 2%, cases out of 8% of hyperplasia. Endometrial biopsy was done in similar group, 12% hyperplasia reported (2% simple, 4% cystic, 4% adenomatous).

Therefore there was outs 80% correlation between the findings aspiration cytology and endomaterial biopsy for diagnosis of precancerous lesions of uterus.

In our study when the findings were confirmed by hysteretomy 3 cases were diagnosed for hyperplasia, These a false positive case was reported by cytology, Therefore accuracy of cytological diagnosis of hypeplasia in our study was 75% and 60% by endometrial biopsy.

Nikitina et al (1979) found diagnostic accuracy of hyperplasia to be 89.8% where as Segadal and Ivrson (1980)

found 75% accuracy in diagnosing premalignant changes by cytology.

Sagar et al (1981) reported an accuracy of 88.88% in diagnosing hyperplasia ; Agarwal et al (1984) reported on accuracy of 72.49% which can be compared to our findings.

In present study 2 cases of endometrial carcinoma showed by cytology, 1 by biopsy & 1 by hysterectomy thus biopsy. showed 100% accuracy in diagnosing malignancy. Thus aspiration cytology certainly emphasizes the importance for being adoptted in analytical purposes

The diagnostic accuracy rate was 100% in cases of malignancy which was similar to the observation of other authors like Ambiye et al (1981), Chakravarty et al (1986), Sharma and Lag hate (1992), Bhandari et al (1991) have reported the accuracy rate of endomaterial aspiration cytology in the diagnosis of endometrial carcinoma as 93.75%. Agarwal et al (1986) in a similar study demonstrated a 100% correlation in malignancy.

In this study 8% case could not be confirmed by aspiration due to difficulty in inserting the cannula through cervical os.

Conclusion

CONCLUSIONS

A study of 150 cases was done between the age group of 25-70 years, in cervical lesions and abnormal uterine bleeding. Cytology and biopsies were performed in these cases cytological and histological findings were analyzed and their correlation to each other studied.

In cervical lesions common complains was discharge per vagina & irregular bleeding per vagina.

From the present study following conclusions have been drawn-

i) Vaginal , cervical and endometrial aspiration cytology are simple techniques, which can be performed as an out patient procedure and there is no need of anesthesia or admission to hospital.

ii) Cytologies provide abundant material for study.

iii) Cytology was painless procedure causing minimal discomfort to the patient and patients were willing even if there was a need to be repeated.

iv) Cytology can detect carcinomas which are clinically unsuspected and must be done as a routine examination for detecting precancerous and cancerous lesions.

v) Value and accuracy of vaginal and cervical semars in the diagnosis of cervical carcinoma are well known, but they have a low accuracy in the diagnosis of endometrial cancer as the endometrial cells desquamated and tend to degenerate before they reach the vagina and posterior fornix.

vi) In moderate dysplasia cytology showed 95.45% correlate with biopsy in severe dysplasia there is 60% correlation between cytology and biopsy. In invasive carcinoma correlation was 75% between vaginal cytology and biopsy.

vii) After hystrectomy there was 100% correlation in cervical biopsy & hyserectomy in cases of moderate dysplasia.

In severe dysplasia there was 100% correlation in cytology and hysterectomy 60% correlation in between biopsy & hysterectomy.

Incases of carcinoma there was 75% correlation in between hysterectomy and cytology and 100% correlation is between hyster ectomy and biopsy.

viii) Endometrial aspiration cytology and endometrial biopsy showed 80% correlation for diagnosing percanerous lesions hyperplasia and similar correlation in cases of endometrial malignancy.

ix) In this study all cases of cervical malignancy were diagnosed by biopsy but vaginal smear showed the false negative result also.

And all of endometrial carcinoma diagnosed by biopsy but as aspiration cytology showed one false negative case. The reason for this false negative result was that in case of endometrial lesion cells from all areas can not be picked of by aspiration cytology.

x) Present study shows that cytology is nearing accurate for diagnosis of precancerous and cancerous lesions of uterus and cervix.

xi) Thus we can conclude that at least once annually, every women pre and postmenopausal with symptoms or with out symptoms ,but with suspicious findings clinically should be screened by vaginal, cervical and endometrial aspiration cytologies to detect precancerous and cancerous lesions amongst gynecological disease .

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Master Chart

MASTER CHART

S. No.	Age	Parity (P)	Complains	Uterus Size P/V	P/S	Vaginal Cytology (Dysplasia)	Cx - Biopsy	Aspiration Cytology	Endometrial biopsy
1.	28	P_3	Menorrhagia	N.S.	Erosion	Mild	Moderate	-	-
2.	46	P_5	Post Menopausal Bleeding	Atrophic	Erosion	Severe	-	Normal	Proliferative
3.	30	P_3	Menometorrhagia	Bulky	Erosion	Mild	-	Normal	Secretory
4.	47	P_5	Menometorrhagia	Bulky	Erosion	Moderate	Moderate	Normal	Secretory
5.	47	P_3	Menometorrhagia	N.S.	Erosion	Severe	Severe	-	-
6.	26	P_2	Discharge P/V	N.S.	Erosion	Inflammatory	Severe	-	Inadequate
7.	35	P_2	Menorrhagia	N.S.	Erosion	Mild	-	Normal	Secretory
8.	29	P_4	Menorrhagia	N.S.	Erosion	Inflammatory	Cervicitis	Normal	-
9.	36	P_4	Metrorrhagia	Bulky	Erosion	Normal	-	-	-
10.	30	P_4	Metrorrhagia	Bulky	Growth	Inflammatory	-	-	-
11.	36	P_2	Polymennorrhagia	Bulky	Erosion	Normal	-	-	-
12.	32	P_2	Polymennorrhagia	Bulky	Erosion	Normal	-	-	-
13.	38	P_2	Polymennorrhagia	Bulky	Erosion	Inflammatory	-	-	-
14.	34	P_3	Polymennorrhagia	N.S.	Erosion	Moderate	-	-	-
15.	37	P_3	Polymennorrhagia	N.S.	Erosion	Moderate	-	-	-
16.	37	P_4	Menorrhagia	N.S.	Growth	? Carcinoma	? Sq.Cell	-	-

							CA		
17.	34	P_4	Metrorrhagia	Bulky	Erosion	Mild	Moderate	-	-
18.	38	P_4	Metrorrhagia	Bulky	Erosion	Mild	Certicitis	-	-
19.	37	P_3	Metrorrhagia	Bulky	Erosion	Mild	-	-	-
20.	35	P_3	Polymennorrhagia	Bulky	Erosion	Moderate	Moderate	Cystic Hy.	Cystic Hy.
21.	26	P_4	Menorrhagia	N.S.	Erosion	Moderate	Moderate	-	-
22.	47	P_3	Menorrhagia	N.S.	Erosion	Mild	-	Normal	Cystic Hy.
23.	48	P_2	Discharge P/V	N.S.	Erosion	C.I.S.	-	Normal	Proliferative
24.	47	P_3	Menometrorrhagia	Bulky	Erosion	Inadequate	Cervicitis	-	-
25.	48	P_6	Contact Bleeding	N.S.	Erosion	Moderate	? Sq. Cell Ca.	-	-
26.	48	P_3	Menorrhagia	Bulky	Growth	Normal	-	-	-
27.	37	P_4	Menorrhagia	N.S.	Erosion	Normal	-	-	-
28.	39	P_4	Menorrhagia	Bulky	Erosion	Inflammatory	-	-	-
29.	38	P_4	Discharge P/V	Bulky	Erosion	Inflammatory	Cervicitis	-	-
30.	26	P_2	Discharge P/V	Bulky	Erosion	Normal	Cervicitis	-	-
31.	27	P_2	Discharge P/V	N.S.	Erosion	Normal	Cervicitis	-	-
32.	28	P_2	Metrorrhagia	N.S.	Erosion	Normal	-	Normal	Proliferative
33.	39	P_3	Metrorrhagia	N.S.	Erosion	Moderate	-	Normal	Proliferative
34.	38	P_3	Contact Bleeding	Bulky	Erosion	Moderate	-	-	-
35.	29	P_3	Polymennorrhagia	Bulky	Erosion	Normal	Moderate	-	-
36.	38	P_4	Polymennorrhagia	Bulky	Growth	Normal	Moderate	-	-

37.	38	P_4	Polymennorrhagia	Bulky	Erosion	Mild	-	Normal	Proliferative
38.	39	P_4	Menorrhagia	N.S.	Erosion	Inflammatory	-	Normal	Proliferative
39.	26	P_4	Discharge P/V	N.S.	Erosion	Inflammatory	-	-	-
40.	29	P_2	Discharge P/V	N.S.	Erosion	Moderate	Severe	-	-
41.	29	P_4	Discharge P/V	N.S.	Erosion	Normal	-	-	-
42.	38	P_4	Menorrhagia	N.S.	Erosion	Normal	-	Normal	Inadequate
43.	29	P_4	Discharge P/V	Bulky	Erosion	Normal	-	-	-
44.	30	P_2	Discharge P/V	Bulky	Erosion	Inflammatory	-	-	-
45.	39	P_1	Discharge P/V	Bulky	Erosion	Inflammatory	-	-	-
46.	38	P_2	Menorrhagia	Bulky	Erosion	Moderate	-	Normal	Secretory
47.	38	P_2	Menorrhagia	N.S.	Erosion	Inflammatory	Cervicitis	Normal	Secretory
48.	39	P_4	Discharge P/V	N.S.	Cervicitis	Inflammatory	Cervicitis	-	-
49.	30	P_2	Discharge P/V	N.S.	Cervicitis	Normal	Inadequate	-	-
50.	28	P_2	Postmenopausal Bleeding	Atrophic	Erosion	Mild	Cervicitis	-	Adenomatus Hy.
51.	62	P_7	Discharge P/V	Bulky	Cervicitis	Inflammatory	-	-	-
52.	55	P_3	Menorrhagia	Bulky	Erosion	Mild	-	Normal	Secretory
53.	40	P_5	Polymennorrhagia	Bulky	Erosion	Mild	-	-	-
54.	39	P_3	Menometrorrhagia	Bulky	Cervicitis	Inadequate	-	Simplicity	Simplicity
55.	48	P_3	Postmenopausal Bleeding	Atrophic	Cervicitis	Severe	-	-	-
56.	59	P_6	Polymenorrhagia	Bulky	Cervicitis	Moderate	-	-	-

57.	36	P_3	Postmenopausal Bleeding	Atrophic	Cervicitis	Inflammatory	Cervicitis	-	-
58.	53	P_5	Discharge P/V	N.S.	Erosion	Normal	-	-	-
59.	54	P_4	Menorrhagia	N.S.	Erosion	Mild	-	Normal	Secretory
60.	54	P_3	Polymenorrhagia	N.S.	Growth	CIS	-	Normal	Secretory
61.	44	P_6	Polymenorrhagia	Bulky	Erosion	Normal	-	Normal	Proliferative
62.	48	P_4	Postmenopausal Bleeding	Atrophic	Cervicitis	Moderate	-	Carcinoma	Proliferative
63.	44	P_4	Polymenorrhagia	Bulky	Cervicitis	Mild	-	Normal	Proliferative
64.	49	P_3	Polymenorrhagia	Bulky	Cervicitis	Mild	Mild	Normal	Adenomatus Hy.
65.	42	P_2	Postmenopausal Bleeding	Atrophic	Erosion	Inadequate	-	-	-
66.	42	P_3	Contact Bleeding	N.S.	Cervicitis	Severe	-	-	Proliferative
67.	47	P_3	Polymenorrhagia	N.S.	Cervicitis	Normal	-	Normal	-
68.	43	P_3	Polymenorrhagia	N.S.	Cervicitis	Severe	Severe	-	-
69.	46	P_7	Polymenorrhagia	N.S.	Erosion	Normal	-	-	-
70.	43	P_7	Polymenorrhagia	N.S.	Cervicitis	Moderate	-	-	-
71.	45	P_7	Polymenorrhagia	N.S.	Erosion	CIS	-	-	-
72.	37	P_3	Menorrhagia	Bulky	Erosion	Moderate	-	-	-
73.	38	P_3	Menorrhagia	N.S.	Erosion	Inflammatory	Mild	-	-
74.	57	P_3	Polymenorrhagia	Bulky	Cervicitis	Normal	-	-	-
75.	38	P_4	Polymenorrhagia	Bulky	Cervicitis	Inflammatory	Mild	-	-

76.	29	P_2	Discharge P/V	N.S.	Erosion	Mild	-	-	-
77.	28	P_2	Discharge P/V	N.S.	Erosion	Inflammatory	-	-	-
78.	30	P_2	Discharge P/V	N.S.	Erosion	Inflammatory	Mild	-	-
79.	30	P_2	Discharge P/V	N.S.	Erosion	Inflammatory	-	-	-
80.	55	P_2	Postmenopausal Bleeding	Atrophy	Cervicitis	Normal	-	Inadequate	-
81.	59	P_3	Postmenopausal Bleeding	Atrophy	Cervicitis	Inflammatory	Mild	-	-
82.	58	P_3	Discharge P/V	Bulky	Erosion	Normal		-	-
83.	44	P_7	Contact Bleeding	Bulky	Cervicitis	CIS	-	-	-
84.	56	P_2	Postmenopausal Bleeding	Atrophy	Erosion	Inflammatory	-	?CA	-
85.	50	P_5	Discharge P/V	Bulky	Erosion	Inflammatory	Cervicitis	-	-
86.	29	P_3	Discharge P/V	N.S.	Cervicitis	Mild	-	-	Proliferative
87.	28	P_4	Discharge P/V	Bulky	Cervicitis	Mild	Mild	-	Proliferative
88.	27	P_4	Discharge P/V	N.S.	Cervicitis	Normal	-	-	-
89.	26	P_4	Discharge P/V	N.S.	Cervicitis	Normal	-	-	-
90.	49	P_2	Polymenorrhagia	Bulky	Erosion	Normal	NAD	Normal	Proliferative
91.	42	P_5	Polymenorrhagia	Bulky	Erosion	Inadequate	-	Normal	Inadequate
92.	48	P_5	Polymenorrhagia	N.S.	Cervicitis	Inflammatory	-	Normal	Proliferative
93.	47	P_3	Discharge P/V	N.S.	Erosion	Mild	Mild	-	-
94.	43	P_6	Contact Bleeding	N.S.	Growth	Severe	-	-	-
95.	42	P_5	Menorrhagia	Bulky	Erosion	Normal	-	Normal	Proliferative

96.	47	P_5	Polymenorrhagia	Bulky	Cervicitis	Inflammatory	NAD	-	Proliferative
97.	41	P_7	Contact Bleeding	N.S.	Cervicitis	Mild	-	-	-
98.	41	P_6	Menorrhagia	N.S.	Erosion	Inflammatory	-	Normal	Proliferative
99.	46	P_5	Polymenorrhagia	N.S.	Cervicitis	Inflammatory	-	Cystic Hy.	-
100.	49	P_3	Discharge P/V	N.S.	Growth	CA	-	-	-
101.	41	P_5	Menometrorrhagia	N.S.	Cervicitis	Normal	-	-	-
102.	49	P_5	Postmenopausal Bleeding	Atrophy	Cervicitis	Mild	-	-	-
103.	29	P_2	Discharge P/V	Bulky	Erosion	Mild	-	-	-
104.	37	P_3	Discharge P/V	Bulky	Erosion	Inflammatory	Cervicitis	-	-
105.	46	P_5	Contact Bleeding	N.S.	Erosion	Inflammatory	-	-	-
106.	56	P_2	Postmenopausal Bleeding	Atrophy	Erosion	CA	-	-	-
107.	48	P_4	Contact Bleeding	N.S.	Cervicitis	Severe	-	-	-
108.	58	P_4	Discharge P/V	N.S.	Erosion	Normal	Cervicitis	-	-
109.	42	P_3	Contact Bledding	Bulky	Growth	Moderate	-	-	-
110.	44	P_3	Polymenorrhagia	Bulky	Erosion	Normal	-	Normal	Proliferative
111.	44	P_7	Polymenorrhagia	N.S.	Growth	Moderate	-	Normal	Proliferative
112.	43	P_3	Polymenorrhagia	N.S.	Cervicitis	Normal	Cervicitis	Normal	Proliferative
113.	44	P_3	Polymenorrhagia	N.S.	Cervicitis	Normal	-	-	-
114.	47	P_3	Postmenopausal Bleeding	Atrophy	Erosion	Moderate	-	Inadequate	-
115.	43	P_7	Polymenorrhagia	N.S.	Erosion	Mild	Mild		

116.	46	P_6	Menorrhagia	N.S.	Erosion	Mild	-	Normal	Seceratory
117.	42	P_3	Postmenopausal Bleeding	Atrophy	Erosion	Inflammatory	-	-	-
118.	40	P_3	Discharge P/V	N.S.	Erosion	Inflammatory	Cervicitis	-	-
119.	63	P_2	Postmenopausal Bleeding	Atrophy	Cervicitis	CIS	-	-	-
120.	59	P_3	Postmenopausal Bleeding	Atrophy	Erosion	Inflammatory	Cervicitis	CA	-
121.	52	P_3	Postmenopausal Bleeding	Atrophy	Erosion	Moderate	-	-	-
122.	36	P_3	Menorrhagia	N.S.	Erosion	Inflammatory	-	Normal	Secretory
123.	58	P_2	Discharge P/V	N.S.	Cervicitis	Mild	-	-	-
124.	39	P_3	Polymenorrhagia	N.S.	Erosion	Mild	-	Normal	Proliferative
125.	30	P_2	Polymenorrhagia	N.S.	Cervicitis	Mild	-	Normal	-
126.	37	P_2	Polymenorrhagia	N.S.	Erosion	Mild	-	Normal	Inadequate
127.	36	P_3	Polymenorrhagia	N.S.	Erosion	Mild	Cervicits	Normal	-
128.	44	P_3	Postmenopausal Bleeding	N.S.	Erosion	CIS	-	Normal	Proliferative
129.	44	P_5	Contact Bleeding	N.S.	Erosion	Inflammatory	Sq. CA	-	-
130.	48	P_5	Discharge P/V	N.S.	Cervicitis	Mild	Inadequat e	-	
131.	42	P_7	Postmenopausal Bleeding	N.S.	Erosion	Mild	-	-	-
132.	32	P_3	Discharge P/V	Bulky	Erosion	Inflammatory	-	-	-

133.	49	P_3	Postmenopausal Bleeding	Atrophy	Erosion	Mild	Cervicits	-	-
134.	32	P_3	Polymenorrhagia	Bulky	Erosion	Normal	-	PCA	P
135.	46	P_3	Polymenorrhagia	Bulky	Erosion	Inadequate	-	Ade. Hy.	CA
136.	39	P_4	Polymenorrhagia	N.S.	Cervicitis	Inflammatory	-	-	-
137.	39	P_4	Discharge P/V	N.S.	Erosion	Mild		Normal	Secretory
138.	38	P_4	Discharge P/V	N.S.	Erosion	Mild	Mild	Normal	Secretory
139.	28	P_4	Contact Bleeding	N.S.	Erosion	Normal	Mild	-	-
140.	29	P_4	Menorrhagia	N.S.	Erosion	Normal	-	-	-
141.	36	P_4	Menometorrhagia	N.S.	Erosion	Mild	-	-	-
142.	37	P_7	Menorrhagia	N.S.	Erosion	Mild	Cervicitis	-	-
143.	38	P_3	Menorrhagia	Bulky	Cervicitis	Normal	Cervicitis	-	-
144.	39	P_3	Discharge P/V	Bulky	Erosion	Mild	-	-	-
145.	39	P_4	Polymenorrhagia	Bulky	Erosion	Moderate	-	-	-
146.	39	P_4	Menometrorrhagia	N.S.	Erosion	Moderate	Moderate	Normal	Secretory
147.	30	P_4	Discharge P/V	N.S.	Erosion	Inflammatory	-	Normal	Secretory
148.	58	P_7	Postmenopausal Bleeding	Atrophy	Erosion	Mild	-	-	-
149.	38	P_3	Discharge P/V	Bulky	Erosion	Inflammatory	-	Inadequate	Proliferative
150.	62	P_3	Postmenopausal Bleeding	Atrophy	Erosion	Inflammatory	-	-	-